



DEPARTMENT OF THE NAVY  
FLEET AND INDUSTRIAL SUPPLY CENTER, NORFOLK  
CONTRACTING DEPARTMENT, PHILADELPHIA OFFICE  
700 ROBBINS AVENUE, BUILDING 2B  
PHILADELPHIA, PA 19111-5083

IN REPLY REFER TO:

J&A Number 11-052

**JUSTIFICATION AND APPROVAL  
FOR USE OF OTHER THAN FULL AND OPEN COMPETITION**

**1. Contracting Activity.**

The contracting activity is the Fleet and Industrial Supply Center (FISC), Norfolk, Contracting Department, Philadelphia Office.

**2. Description of the Action Being Approved.**

This is a sole source action to be awarded as a new contract to Raytheon Company of Sudbury, MA on a sole source basis for engineering and program support services for the Relocatable Over-the-Horizon Radar (ROTHR) System. The placement of an Indefinite Delivery, Indefinite Quantity (IDIQ), Cost-Plus-Fixed-Fee (CPFF), Performance-Based type contract that will allow the placement of task orders of various contract types tailored to the nature of specific, individual requirements is anticipated for a base period of one year with two one-year options beginning on 15 February 2012. The total estimated value of this acquisition, inclusive of options, is \$47,980,818.06.

**3. Description of Supplies/Services.**

U.S. Navy Forces Surveillance Support Center (FSSC) of Chesapeake, VA, requires engineering and program support for the Relocatable Over-the-Horizon Radar (ROTHR) for critical software enhancements, software re-hosts, software maintenance, installation, removal, integration and testing, as well as associated engineering, technical, training, and logistics support. Additionally, the effort includes recurring support for systems engineering; engineering change proposal preparation and analysis; failure analysis; configuration management; preparation, installation and/or testing of field change kits; logistics support; training; and, repair/refurbishment services, with new and legacy sub-systems and equipment. On the average there are 10 Class I, Engineering Change Proposals (ECPs) and one major software release per year.

The ROTHR System is a relocatable, land based, High Frequency (HF) Radar, which provides wide area surveillance in support of tactical forces afloat through the early detection and tracking of targets of interest, such as aircraft and ships. ROTHR is a dynamic program involving foreign locations, unique site requirements, interfacing with many communities, and providing mobilization on short notice. The ROTHR System was originally designed to provide indications and warning of Soviet regimental-sized-raids of bomber aircraft against US Navy battle fleets. It is now tasked to provide detection and monitoring of drug smuggling aircraft and ships to support the Office of the Department of Defense Coordinator for Drug Enforcement Policy and support counterdrug operations, providing long range detection of narcotic trafficking ships and aircraft as well as filling gaps in the radar coverage provided by fixed and mobile platforms.

The primary places of performance for work under this contract include the Southside Hampton Roads (Chesapeake, Norfolk), Virginia, Texas, and Puerto Rico. Other performance locations may include, but not necessarily limited to, SPAWARSYSCEN Atlantic; Sudbury, MA; Washington, D.C.; Australia; Colombia, South America; and Key West, FL.

The funding planned for the acquisition will be provided as O&MN estimated as follows:

#### **4. Statutory Authority Permitting Other Than Full and Open Competition.**

The statutory authority permitting other than full and open competition is 10 U.S.C. 2304(c)(1) as implemented by FAR 6.302-1 – Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements.

#### **5. Rationale Justifying Use of Cited Statutory Authority.**

Raytheon Company, Integrated Defense Systems, is the sole developer, producer and design agent of the ROTHr System. The software and hardware involved with the system were specifically designed for the ROTHr System and there are no other operational ROTHr systems in the US. Raytheon is the only source that is currently capable of performing the required engineering and program support services. Unique, specific and detailed knowledge and technical data on the ROTHr System functions are required to support system operations. Raytheon is the only contractor that can step in and perform the required effort without harming the system's performance and impacting projects under way. While Raytheon has utilized subcontractors to work on specific parts used on the ROTHr system, representing approximately 10-20% of the contract effort, Raytheon is the only contractor to have ever worked on the ROTHr system. As such, only Raytheon has the unique, detailed knowledge and technical data suitable for current operations.

Raytheon had previously developed the ROTHr radar system under SPAWAR Contract N00039-84-C-0049 which was competitively awarded in 1984. Under contract N00039-90-C-0027, Raytheon produced the three operational ROTHr systems and has continued to support and enhance those ROTHr systems under Contract numbers: N65236-95-D-0026, N65236-96-D-6800, N65236-97-D-5816, N65236-00-D-6810, N65236-01-D-5844, and N65236-05-D-8837 all of which were awarded on a sole source basis.

During the limited production contract, N00039-90-C-0027, of only three systems, the Government did not procure all ROTHr engineering drawings or all intellectual property rights due to cost considerations. The Level III Drawings were an optional line item that was never exercised. While Level II drawings were provided under the original contract, N00039-84-C-0049, and updated under the limited production contract, level II drawings do not provide sufficient detail on the system to execute the required services through a competitive acquisition. Sufficient technical data is crucial to providing the critical services for continuity of the ROTHr program to ensure usable spare parts are procured, obsolescence issues can be rectified, and redesign efforts can be completed.

Funding is not available to procure the technical data for a full and open competition. In June 2004, under ROTHr contract number N65236-01-D-5844, Raytheon proposed a cost of over \$1M to provide new Consolidated Operations Control Center (COCC) engineering drawings. The COCC is only a portion of the ROTHr system in regards to engineering drawings with all the components located in one small building. Utilizing the costs for the COCC, it is estimated that to procure the engineering drawings for the remaining portions of the ROTHr System, it would cost the Government an additional \$6M to \$8M dollars. This estimate was derived by taking the proposal for the COCC and adjusting it for today's dollars, then multiplying that by how much of the system remained after COCC. For the last five years, the program sponsors have had to cut ROTHr funding by approximately \$10 million per year. The program is at the point where another \$10 million cut would require the shutdown of one of the three operational systems, thereby reducing effectiveness of the ongoing DOD counter narco-terrorism operations. These cuts have already delayed many of the ROTHr refurbishment and obsolescent solutions. As such, there is no available funding to procure the technical data from Raytheon without degrading support to FSSC's mission.

Furthermore, even if the technical data could be procured or another contractor was afforded the opportunity to reverse engineer it, in order to ensure ROTHr system performance would not be degraded, and the ability to provide target of interest data to the sponsor would not be affected, any new contractor would have to be able to perform the following tasks immediately upon award:

1. Ongoing tasks that are currently being accomplished by the incumbent and are in the middle of achievement. These tasks include Digital Waveform Generation, Quasi-Vertical Incident (QVI) Sounder



Replacement procurement, Electronic Magnetic Interference (EMI), Beamspace Adaptive Channel Compensation (BACC) II, Equipment-Controller-Firmware and the Transmit-Shelter-Firmware (ECF-TSF).

2. Provide a new database of parts from the raw engineering drawings available for obsolescence issues. Raytheon owns a database which tracks all the parts they have developed and provides a report on obsolescence of the piece parts through the CASE Tool which is owned by Raytheon and provided for FSSC's use.

3. Have established vendors to determine which parts are becoming obsolete on the system and find replacements. Raytheon already has established vendors in place for current operational parts and material for the ROTH system. The established vendor list is proprietary to Raytheon and will not be available for the new contractor.

4. Provide software maintenance support to include all interfaces within the ROTH systems. There are approximately 27 different software applications that operate on Windows 7, HP Open VMS, Red Hat Linux, Fedora Linux and VME Bus Operating Systems. The software applications are enclosed with this Justification and Approval. The Software Support Agent has estimated that it would take any new contractor a minimum of six months to develop the familiarity with the software, in order to perform software maintenance. This information is based on a study that was done by the former Contracting Officer's Representative, COR, for this effort. The ROTH Systems would eventually cease to operate without routine hardware and software engineering support, which would seriously jeopardize the entire DOD counter narco-terrorism operation.

5. Provide engineering expertise on the ROTH system including such examples as: antenna design, Radio Frequency (RF) cable fire issues, and wooden antenna support systems.

It is estimated that it would take a new contractor one to three years to acquire the skills to perform the highly specialized services based on assessment of the relationships and experience achieved by Raytheon. Even a one year delay to accommodate a learning curve for a new contractor would create an immeasurable impact on the counter narco-terrorism mission. Accommodating a learning curve, especially if the new contractor knew nothing of ROTH, would degrade system performance, endanger the availability of required parts resulting in more downtime, which would mean fewer targets-of-interest would be tracked, and fewer drug runners interdicted resulting in more drugs on the streets.

Moreover, FSSC is unable to accommodate the learning curve of a new contractor associated with the required services as it would have a detrimental impact to daily operations. FSSC is a small center of about 46 Government employees. As such, there are insufficient resources to both train a new contractor and complete FSSC's own workload requirements. FSSC's daily operations would be negatively impacted to compensate for time lost to Government personnel who would have to familiarize and train the contractor personnel in their duties and also provide an increased level of oversight until the contractor personnel became more familiar with the ROTH system. Also, FSSC only has one software person to train the new contractor in all the software programs. In addition, there would be a financial impact associated with the delays to ongoing projects that would slow or stop as the new contractor became familiar with the taskings and progress on these projects. Planned enhancements to ROTH would also have to be delayed to accommodate the learning curve which could impact mission support to requirements needed by the sponsor. Lastly, without the complete technical data and required drawings, it is virtually impossible for FSSC to train a new contractor to do redesign. A new contractor would have to reverse engineer system drawings and recreate supporting technical data that Raytheon has already developed which would result in duplicative effort and be time consuming and costly.

Raytheon is uniquely qualified as sole developer, producer and design agent of the ROTH systems thus possessing the highly specialized knowledge and technical data critical to provide the required services. There would be too much risk involved in attempting to go to another contractor to ensure ROTH system performance will not be degraded and the ability to provide target of interest data to the sponsor will not be affected.

**6. Description of Efforts Made to Solicit Offers from as Many Offerors as Practicable.**

The original contract for Engineering Development was competitively awarded to Raytheon in 1984. While the contracts that followed for production and engineering and program support have been sole source, notices have been posted expressing the Government's intent to negotiate with Raytheon on a sole source basis for these follow-on efforts.

Market research was performed through review of existing contracts, previous acquisitions files, Contract Directory of Multi Agency Contracts, GSA schedules, discussions with the requiring activity, FISC negotiators and an internet search. Market research revealed that while other radar systems may have some limited similarity to ROTHr features, no system is similar to the ROTHr system where experience on that system would transfer to experience with ROTHr. The required Engineering and Program Support Services require unique, specific knowledge and experience related to the ROTHr system including software and hardware specifically designed for ROTHr as well as technical data on the ROTHr System functions.

This sole source acquisition was synopsisized in the Government wide point of entry (GPE) at the NECO website on 7 June 2011. To date, no potential sources have identified an interest in this acquisition effort.

**7. Determination of Fair and Reasonable Cost.**

The Contracting Officer will determine the anticipated costs to the Government of the services covered by this J&A are fair and reasonable in accordance with FAR Part 15.

**8. Actions to Remove Barriers to Future Competition.**

For the reasons set forth in Paragraph 5, FISC Norfolk Contracting Department, Philadelphia Office has no plans at this time to compete future contracts for the types of supplies/services covered by this document. If more funding becomes available to facilitate the purchase of technical data or reverse engineering efforts, the mission increases requiring production of more ROTHr systems where the design of the new system could be competed, another potential source emerges or the situation otherwise changes, FISC will assess whether competition for future requirements is feasible.

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